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10/044,704	11/09/2001	Mary R. Reidmeyer	TOMC 8188US	7982

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EXAMINER	
TUNG, TA HSUNG	
ART UNIT	**PAPER NUMBER**
1743	3

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Please find below and/or attached an Office communication concerning this application or proceeding.

AS-3

Office Action Summary	Application No. 100/044,704	Applicant(s) REDMEYER BTAL
	Examiner T. TUNG	Group Art Unit 1743 — Paper No. 3

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☑ Claim(s) 1-20 is/are pending in the application.

Of the above claim(s) 10-20 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☑ Claim(s) 1-9 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)–(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)–(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☑ Information Disclosure Statement(s), PTO–1449, Paper No(s). _____

☐ Interview Summary, PTO–413

☐ Notice of Reference(s) Cited, PTO–892

☐ Notice of Informal Patent Application, PTO–152

☐ Notice of Draftsperson's Patent Drawing Review, PTO–948

☐ Other _____

Office Action Summary

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-9, drawn to a sensor, classified in class 204, subclass 424.

II. Claims 10-20, drawn to a method of manufacture, classified in class 427, subclass 443.1.

The inventions are distinct, each from the other because:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the device of group I can be made by a method other than that of group II (e.g. electroplating instead of electroless plating).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classifications restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. J. Polster on July 16, 2002 a provisional election was made with traverse to prosecute the invention of group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-3, 5, 7-9 are rejected under 35 U.S.C. 102(e, b) as being anticipated by Katafuchi etal 5,948,225 or Japan 4-95766.

Katafuchi discloses a sensor made by a process of coating a yttria-stabilized zirconia solid electrolyte thimble with an organic platinum salt solution, heating the coating to decompose the salt and thus forming Pt nucleation sites in the pores on a surface of the solid electrolyte. Then, a Pt electrode layer is formed on the nucleation sites by electroless plating and subsequent heating. The resulting electrode layer extends into the pores to become mechanically locked to the electrolyte surface. See col. 5, line 25 to col. 8, line 9.

As for the surface of the electrolyte being more porous than the underlying matrix, that is presumed to be true of the patent, since the matrix is not porous throughout. If the matrix were porous throughout, there would be no way to segregate a sample exhaust gas from a reference medium.

As for claim 2, the structure recited therein is presumably true of Katafuchi, since applicant's sensor is made in the same manner as the patent's sensor.

Japan discloses a sensor made by essentially the same process as that of Katafuchi. See pages 5-11 of the translation.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katafuchi etal or Japan in view of Ruka etal 3,400,054.

This claim differs by calling for the sensor as part of an oxygen generator.

Ruka discloses a solid electrolyte cell that can serve as a sensor (fig. 7) or as an oxygen generator (fig. 6). See col. 7, line 74 to col. 8, line 55. It would have been obvious to employ the Katafuchi or Japan solid electrolyte cell to generate oxygen in view of Ruka, since these two uses are art-recognized equivalents.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katafuchi etal or Japan in view of Tanaka etal 4,225,634 or Topp etal 3,978,006.

This claim differs by calling for the Pt layer electrode to extend from a closed axial end to near an open axial end of the thimble.

Tanaka (fig. 1) or Topp (fig. 1) shows electrodes 4 and 13 respectively extending from a closed end of an electrolyte thimble to near an open end. It would have been obvious for Katafuchi or Japan to adopt this electrode configuration, since the portion of the electrolyte layer away from the active, closed end portion of the thimble can serve as an electrical lead for the electrode.

Claims 1-3, 5, 6, 8, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka etal 5,716,507 or Tanaka etal 4,225,634.

Tanaka '507 discloses a sensor made by a method of forming a porous coating layer on a solid electrolyte thimble, contacting the porous coating with a platinum chloride solution to permit the chloride to seep into the coating, heating the thimble to convert the chloride to platinum particles and then forming a platinum electrode layer thereover by electroless plating. See col. 6, lines 23-25; col. 8, lines 22-48. The platinum particles would inherently create nucleation sites for the subsequent plating of the electrode layer.

As for claim 2, the electrode structure recited therein is presumbly true of Tanaka '507, since the method of making the patented sensor is the same as applicant's method.

Tanaka '634 discloses a sensor made by soaking a platinum salt solution into the pores of a surface of a solid electrolyte thimble, heating the salt to form platinum nucleation sites and forming a platinum electrode layer thereover by chemical plating (presumably electroless plating). See col. 2, line 13 to col. 4, line 11.

The matrix of the electrolyte is presumably less porous than its surface. Otherwise, the electrolyte would not be able to segregate a sample gas from a reference medium.

As for claim 2, the electrode structure recited therein is presumably true of Tanaka '634, since the method of making the patented sensor is the same as that of applicant.

Claims 4, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka etal '507 or Tanaka etal '634 in view of Ruka etal.

These claims differ by calling for the solid electrolyte cell to be part of an oxygen generator and for the electrolyte to be yttria-stabilized zirconia.

Ruka discloses yttria-stabilized zirconia to be a conventional solid electrolyte material (col. 4, lines 5-60). Ruka also discloses the use of a solid electrolyte cell as a sensor (fig. 7) or an oxygen generator (fig. 6). See the paragraph connecting columns 7 and 8. It would have been obvious for either Tanaka to adopt yttria-stabilized zirconia as its electrolyte, since the incorporation of known features from analogus prior art is within the skill of the art in the absence of unexpected result. It would also have been obvious for either Tanaka to use its cell as an oxygen generator, because Ruka shows oxygen sensing and oxygen generating to be art-recognized equivalent functions.

Applicant should submit copies of the non-US patent prior art cited in his IDS for the record.

The examiner can be reached at 703-308-3329. His supervisor Jill Warden can be reached at 703-308-4037. Any general inquiry should be directed to the receptionist at 703-308-0661. A fax number for TC 1700 is 703-872-9310.

Ta Tung

Primary Examiner

Art Unit 1743